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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,958

09/08/2006

Sachio Iida

09812.0600

6870

22852

7590

02/04/2009

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP

901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

CHUGHTAI, SARWAT

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

02/04/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/591,958	<b>Applicant(s)</b> IIDA, SACHIO	
	<b>Examiner</b> SARWAT CHUGHTAI	<b>Art Unit</b> 4133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/08/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/08/2006 and 07/17/2007</u> .                               | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on September 08, 2006 and July 17, 2007 compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4 and 5 rejected under 35 U.S.C. 102 (e) as being anticipated by Rostami ET al. (US 2006/0240779 A1).

Regarding claim 1, Rostami et al. teaches, a wireless communication apparatus for receiving a communication signal that frequency-hops among a plurality of frequency bands (Figure 7), the wireless communication apparatus comprising: a frequency conversion unit for multiplying a received communication signal by a local signal

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composed of a hopping frequency so as to perform frequency conversion ("the DC offset cancellation process using multiple low cutoff frequencies.....", Paragraph 0057);

a high-pass filter unit that includes parallel-arranged capacitors corresponding to frequency-hopping bands and switches connections of capacitors in synchronization with frequency hopping (Figure 10B and Paragraph 0046);

a reception processing unit for performing reception processing on a received signal that has passed through the high-pass filter unit ("reception channel", Paragraph 0041 and Figure 6-7).

Regarding claim 4, Rostami et al. teaches the high-pass filter unit has a time difference at the time of switching connections of capacitors so as not to simultaneously connect two or more capacitors in parallel in synchronization with frequency hopping ("after some time period the system changes the channel.....", Paragraph 0042 and Figure 10A-10B; where as the there are switches and capacitors connected in parallel).

Regarding claim 5, Rostami et al. teaches the high-pass filter unit has a parasitic-capacitance elimination unit for eliminating parasitic capacitance at the time of disconnecting each capacitor ("capacitance may also be reduces to the effects of the capacitive divider created by capacitance.....", Paragraph 0074).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostami et al. (US 2006/0240779 A1) in view of Roberts (US 7263333 B2).

Regarding claim 2, Rostami et al. explicitly fails to teach, the communication signal is an ultra-wideband signal obtained by carrying transmission information over a wide frequency band.

However, Roberts teaches, the communication signal is an ultra-wideband signal obtained by carrying transmission information over a wide frequency band (Paragraph 0011-0012). It would have been obvious at the time the invention was made to an ordinary skill in the art to combine the DC offset in electronic system of Rostami et al. with wireless ultra wideband communications methods taught by Roberts because they would provide ultra-wideband signal obtained by carrying transmission information over a wide frequency band.

Regarding claim 3, Rostami et al. explicitly fails to teach, the communication signal is an OFDM signal obtained by allocating a plurality of pieces of data to carriers,

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modulating amplitude and phase for each carrier, and transforming carriers into signals along a time domain while maintaining orthogonally of each carrier along a frequency domain, and wherein the reception processing unit performs OFDM demodulation.

However, Roberts teaches, the communication signal is an OFDM signal obtained by allocating a plurality of pieces of data to carriers (Figure 1), modulating amplitude and phase for each carrier (Figure 9), and transforming carriers into signals along a time domain while maintaining orthogonally of each carrier along a frequency domain, and wherein the reception processing unit performs OFDM demodulation (Figure 9 and Paragraph 0043-0026). It would have been obvious at the time the invention was made to an ordinary skill in the art to combine the DC offset in electronic system of Rostami et al. with the communication signal such as OFDM taught by Roberts because they would provide a system with signals along a time domain with the reception unit performing OFDM.

### ***Conclusion***

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Sarwat Chughtai, whose telephone number is 571-270-7272. The examiner can normally be reached on Monday to Thursday 8:30 AM to 6:00 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Abul Azad can be reached on 571-272-4100. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application maybe obtained from the Patent Application Information Retrieval (PAIR) System. Status information for published application may be obtained from either Private PAIR or Pubic PAIR. Status information for unpublished application is available application through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SARWAT CHUGHTAI/  
Examiner, Art Unit 4133

/ABUL AZAD/  
Supervisory Patent Examiner, Art Unit 4133